

**IN THE CLAIMS**

Claim 1 (currently amended): An impedance matched low noise amplifier circuit, comprising:

a serially coupled first resistor and first transistor;

a serially coupled second resistor and second transistor;

a resistive sensor coupled to the first transistor and the second transistor;

wherein the first resistor and the second resistor are ~~coupled~~  
interconnected; and

a transconductance feedback block directly coupled to ~~to~~ between the resistive sensor and to the serially coupled resistors and transistors.

Claim 2 (original): The circuit of claim 1 further comprising a first supply voltage coupled to the first transistor and to the second transistor.

Claim 3 (original): The circuit of claim 1 further comprising a second supply voltage coupled to the first resistor and to the second resistor.

Claim 4 (original): The circuit of claim 1, wherein a voltage across the resistive sensor represents data being read from a hard disk in a disk drive storage device.

Claim 5 (original): The circuit of claim 1, wherein the transistors are low noise transistors.

Claim 6 (original): The circuit of claim 1, wherein the transistors are MOS transistors.

Claim 7 (original): The circuit of claim 1, wherein the transistors are bipolar transistors.

Claim 8 (original): The circuit of claim 1, wherein the transistors perform as common-base amplifiers.

Claim 9 (original): The circuit of claim 1, wherein the transistors perform as common-gate amplifiers.

Claim 10 (currently amended): A method for increasing an input impedance of an amplifier, comprising:

determining an input impedance at each of a first transistor and a second transistor;

matching the input impedance to an impedance of an interconnect between inputs of the first transistor and the second transistor;

conducting data signals from a resistive sensor coupled to the first transistor and the second transistor to the inputs; and

decreasing current to the transistors, by a transconductance feedback block directly coupled ~~to~~ between the resistive sensor and to the transistors, by an amount dependant on a voltage between the transistors.

Claim 11 (original): The method of claim 10 further comprising determining the input impedance by a bias current supplied to each of the transistors.

Claim 12 (original): The method of claim 10 further comprising producing a positive voltage or a negative voltage across the resistive sensor based on the data signals.

Claim 13 (original): The method of claim 12, wherein the voltage across the resistive sensor represents data being read from a hard disk in a disk drive storage device.

Claim 14 (original): The method of claim 12, wherein the voltage across the resistive sensor appears at the input of each of the transistors.

Claim 15 (original): The method of claim 12 further comprising, if the voltage across the resistive sensor changes, amplifying the voltage by the transistors.

Claim 16 (original): The method of claim 15 further comprising changing an output voltage at each of transistors based on the voltage change.

Claim 17 (original): The method of claim 10 further comprising increasing the input impedance of the transistors based on the decreasing current.

Claim 18 (original): The method of claim 10 further comprising increasing the input impedance by an amount that is proportional to a voltage between input connections of the transconductance feedback block and the gain of the transconductance feedback block.

Claim 19 (original): The method of claim 10 further comprising achieving low-noise at the transistors by choosing a high bias current.

Claim 20 (original): The method of claim 10 further comprising increasing the input impedance with positive feedback from the transconductance feedback block.

Claim 21 (original): The method of claim 10 further comprising near independently controlling noise behavior and the input impedance at the transistors.

Claim 22 (original): The method of claim 10, wherein the transistors perform as common-base amplifiers.

Claim 23 (original): The method of claim 10, wherein the transistors perform as common-gate amplifiers.